



OPERATING SYSTEM CONCEPTS

Chapter 0. Prologue

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Contents

1 Some Introduction to Me

2 Some Introduction to the Course



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Course Orientation

Learning Outcome

- Explain and evaluate the operation of the internal algorithms and structures of a modern multi-user/multi-tasking operating system.
- Critically compare and evaluate the operation of a number of different example operating systems.
- Apply to the solution of a range of problems, the fundamental concepts, principles and algorithms employed in the operation of a multi-user/multi-tasking operating system.



Course Orientation

For Students from **SEU**:

- One of the basic courses for the major of Computer Science & Engineering, and the major of Software Engineering.
- Most important content in the postgraduate entrance examination.
 - Data structure (45 points, 30%)
 - Operating system (60 points, **40%**)
 - Principles of computer composition (45 points, 30%)



Assessments

For Students from **SEU**:

| BJSL0081 - Operating Systems | | | | | |
|------------------------------|---------------------|---------------------|--------------------------|------------------------|-------------|
| Semester | Semester 3 (Spring) | | | | |
| # of Hours | Lecture | Mid-term | Discussion | Lab Work | Total |
| | 48 hours | 4 hours | 12 hours | 8+16 hours | 72+16 hours |
| Assessments | 2-hour Final | 100-min Mid-term | Performance/ Exercise | Lab Work Evaluation | - |
| | 60% | 15% | 10% | 15% | 100% |



Discipline

- Laptop, tablet and cell phone allowed (mute), but
- Do not deal with anything unrelated to the class.
- Any copying or plagiarism is prohibited.



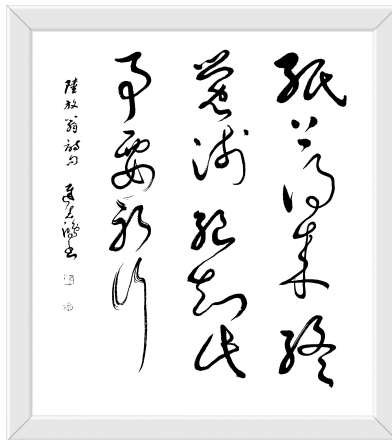
Textbooks

- Operating System Concepts
 - Operating System Concepts. Abraham Silberschatz & Greg Gagne & Peter B Galvin. Seventh edition, photocopy edition, Higher Education. ISBN 978-7-040-20928-0. (¥72)
 - Operating System Concepts. Abraham Silberschatz & Greg Gagne & Peter B Galvin. Ninth edition, photocopy edition, China Machine Press. ISBN 978-7-111-60436-5. (¥99)
 - Currently in the tenth edition. (\$ 96.95)
- Operating System Concepts Essentials
 - Operating System Concepts Essentials, Abraham Silberschatz & Peter B Galvin & Greg Gagne. Second edition, photocopy edition, China Machine Press. ISBN 978-7-111-60648-2. (¥95)
 - Currently in the second edition. (\$ 127.95)
- openEuler
 - openEuler Operating System, Ju Ren & Yaoxue Zhang & Xuhong Peng. First edition, Tsinghua University Press. ISBN 978-7-302-56328-0. (¥89)

Learning Method

Lab work is important.

- I hear and I forgot, I see and I remember, I do and I understand.
- Not having heard something is not as good as having heard it; having heard it is not as good as having seen it; having seen it is not as good as knowing it; knowing it is not as good as putting it into **practice**. —Confucian philosopher Xunzi.





Contents

Details in Schedule

| | |
|--------------------|-----------------------------|
| Overview | Introduction |
| | Operating-System Structures |
| Process management | Processes |
| | Threads |
| | Process Synchronization |
| | CPU Scheduling |
| | Deadlocks |
| Memory Management | Main Memory |
| | Virtual Memory |
| Storage management | Mass-Storage Structure |
| | File-System Interface |
| | File-System Implementation |
| | I/O Systems |

Slides and related materials are indexed @
<https://www.overleaf.com/read/qxzksxcpqgnv>